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Art. I.—*The Tulip.*

For brilliant tints to charm the eye,
What plant can with the Tulip vie?
Yet no delicious scent it yields
To cheer the garden, or the fields,
Vainly in gaudy colors drest,
'Tis rather gazed on than caressed.

The tulip is a native of the Levant, and has been in cultivation nearly three centuries. It may be justly entitled the King of Flowers, for the brilliancy and endless combination of all colors and shades. The varieties of the Tulip are very numerous, and are divided into different classes. Those cultivated in regular beds by amateurs are rose-colored, Bybloemen, and Bizarres. There are a great many beautiful varieties, denominated Parrot Tulips, which have notched petals, and striped or diversified with green; and also some very dwarfish kinds, both single and double, which are generally cultivated in parlors and green-houses.

Mr T. Hogg, of Paddington, near London, has published a work, entitled, "A Treatise on the Cultivation of Florists' flowers," which comprises the Tulip, Carnation, Auricula, Ranunculus, Polyanthus, Dahlia, German China Asters, Seedling Heartsease, and New Annuals. In that work, which is dedicated to Queen Adelaide, the author remarks that the cultivation of the Tulip is one of the most fascinating and pleasing pursuits imaginable, and that when the "Tulip mania has fairly got hold of any one, it sticks to him

like the skin on his back, and remains with him the rest of his life." He instances a Mr Davey, of Chelsea, as being in his seventyfifth year, and in whose breast the fancy of Tulips was so predominant, that in the autumn of 1832 he was induced to part with a hundred sovereigns for one single Tulip, named "Miss Fanny Kemble." Perhaps a better definition of what constitutes the properties of a good Tulip could not be given than a description of this "precious gem, or loveliest of all Tulips;" but, lest my readers should conclude that the old gentleman was in his dotage, I would inform them this favorite bulb was purchased of the executors of the late Mr Clarke, with whom it originated, and that it had not only been the pet of its late owner, but has excited the envy and admiration of all the amateurs who went to view it.

"This precious gem, a Bybloemen Tupil was raised from one of Mr Clark's seedling breeders, and broke into color three years ago; it has produced two offsets since, and is adapted to the second or third row in the bed; the stem is firm and elastic; the foliage full and broad, of a lively green; the cup large, and of the finest form; the white pure, and wholly free from stain; the pencilling on the petals is beautifully marked with black or dark purple, and the feathering uniform and elegant; it preserves its shape to the last, the outer leaves not sinking from the inner; in a word, it is considered the first flower of its cast, and the best that has ever been produced in England.

The article in the work already alluded to, on the cultivation of Tulips alone, occupies ninetysix pages; I therefore, cannot attempt any thing more than abridgment of the author's ideas on some important points. Those of my readers who may desire full information are referred to the work itself, which may be obtained of Mr G. C. Thorburn.

The following description may serve to govern the choice of amateurs: Tulips exhibited at the shows are, in general, classed and distinguished as follows: Flamed Bizarres, Feathered Bizarres, Flamed Bybloemens, Feathered Bybloemens, Flamed Roses, Feathered Roses, and Selfs, or plain colored.

A Bizarre Tulip has a yellow ground, marked with purple or scarlet of different shades; it is called flamed when a broad irregular stripe runs up the middle of the petals, with short abrupt projecting

points, branching out on each side; fine narrow lines, called arched and ribbed, often extended, also, from this broad stripe to the extremity of the leaves; the color generally appearing strongest in the inside petals; a Tulip, with this broad colored stripe, which is sometimes called beamed or splashed, is at the same time, frequently feathered also.

It is called feathered when it is without this broad stripe; but yet it may have some narrow lines, joined or detached, running up the centre of the leaf, sometimes branching out and carved towards the top, and sometimes without any spot or line at all; the petals are feathered more or less round the edges or margin, inside and out, the pencilling or feathering is heavy or broad in some, and light or narrow in others, sometimes with breaks or gaps, and sometimes close, and continued all round.

A Bybloemen Tulip has a white ground lined, marked, striped or variegated with violet or purple, only of various shades; and whether feathered or flamed, is distinguished by the same characters and marks which are pointed out and applied to the Bizarred Tulips.

A Rose Tulip is marked or variegated with rose, scarlet, crimson, or cherry color, on a white ground; and the Feathered Rose is to be distinguished from the Flamed by the same rules, as described before; the Rose is very often both feathered and flamed.

A Self, or Plain-colored Tulip, properly so called is either white or yellow, and admits of no farther change; other plain-colored Tulips, whether red or purple, are called breeders, and are hardly worthy of being exhibited. Mr Hogg informs us, that £100 say $500, judiciously expended at the present time, will give a moderate sized bed that shall contain the greater part of the finest varieties grown; such a bed as £250 would not have purchased twelve or fourteen years ago. To describe minutely the mode of planting a regular bed of Tulips would exceed our limits; suffice it to state that the name of every bulb should be written in a book, and that they should be so classed as to have all the varied colors to show advantageously; to this end, the tallest should be allotted for the middle of the bed, and others in regular gradation, so as to have the most dwarfish on the sides. The bulbs must be covered with good mould, to the depth of three inches from the top of the bulb on the

sides of the bed, and about four inches in the middle. Let a small spoonful of clean drift sand be used around each bulb, and see that the bed be left sufficiently round from the middle to the edges. The beginner must understand that no unsightly tallies, or number sticks, are to distinguish the Tulips; but that he must adopt a sort of ground plan, dividing the whole bed into rows of seven bulbs across; for example, take and write down the names and places of the Tulips in the first row, and continue the same form all through to the other end of the bed.

Row 1st

No. 1. Fenelon, ... this is a Bybloemen.
2. Duchess of Clarence, ... Rose-colored.
3. Charlemagne, ... Bybloemen.
4. Louis the Sixteenth, ... Bybloemen.
5. Memnon, ... Bizarre.
6. Volney, ... Bybloemen.
7. Lady Crewe, ... Rose-colored.

Good fresh loam, taken from under healthy grass sods, is the most suitable soil for Tulips to grow in; under which should be buried to the depth of a foot about two inches thickness of well rotted cow or horse droppings. The reason for placing the dung so low is, that the fibres may get down to it, (which they will do,) and that the bulbs may not be injured by it, as is apt to be the case if too much dung is used around them. The best time for planting the bulbs, is early in November, and the beds should be made a fortnight previous, in order that the earth may become sufficiently settled. If severe frosts set in after the Tulips show themselves above ground in the spring, some protection should be given; single mats placed over hoop bends answer very well; and at the time of blooming, an awning should be erected over them, sufficient to screen the Tulips from the intense heat of the sun, which awning should be sufficiently spacious to admit of persons walking under, to view the beautiful flowers to the greatest possible advantage. — *Bridgman's Gardener's Assistant.*

Art. II. *Entomology.*—By Joseph E. Muse, Cambridge, Md.

To the President of the Agricultural Society at Annapolis.

Dear Sir,—I have long been impressed with the opinion, that no branch of science, perhaps, more deeply interests the practical farmer, than *Entomology*, and none is generally less regarded. The numerous class of insects that blast the most flattering prospects, are suffered yearly to repeat their ravages, without a serious effort to obviate the evil, and the vast varieties, so useful, are suffered to perish, from the want of knowledge to preserve them. To learn the natural history; to enquire into the habitudes of life; the characters, changes, and metamorphoses, of beings so important, are objects not so frivolous as they may appear to the ostentatious, but superficial observer: it is the only mode rational or practicable, whereby the propagation of the one, and the destruction of the other, may be accomplished.

With these views, I have made repeated experiments in *Entomology;* and one of the first objects that attracted my attention, was the worm that inhabits the corn, usually called the grub-worm. I had seen a paper on this subject, by Richard Peters, Esq., in which he represents its parent state to be the "*scarabæus volvens.*" This fact I doubted, as Mr Peters had not himself witnessed the experiment reported by him, though he believed the fact, and proposed a remedy founded upon it: I doubted it, because I had seen the *scarabæus volvens*, in so small a state, as to be almost invisible to the naked eye; upon which the reasoning occurred, that the product of a chrysalis so large, as must *necessarily* be that of a grub-worm, could not, by analogical inference, be as diminutive as the *scarabæus volvens* is frequently seen and known to be, and consequently, that Judge Peters was deceived. To come at the fact, I carried into the field a large transparent bottle, which I half filled with earth; upon his earth I deposited about a dozen of the worms, which were then devouring the corn, and gave them corn blades to feed upon. In a few weeks, or less, perhaps, they disappeared; I searched the earth, and found them chrysalids, enveloped in balls of earth. A considerable time after, I again examined them, and found several of them

matured, and extricated from their envelope; others, a soft and white *pupa*, with limbs more or less distinctly formed, in various states of progression, and exhibiting unequivocal proof of their origin, and of the impossibility of mistake or deception. These destructive animals belong to their order "*coleoptera*" of Linnæus having *crustaceous elytra*, or wing cases, which shut together, and form a longitudinal suture down the back; they are about one quarter of an inch in length, of a shining jet black color, very quick and active in their movements, and are seen in vast numbers under wheat stacks and in wheat yards.

The brief history of this insect is, that its *larva*, or caterpillar, having fed upon the young corn, descends into the earth about the depth of four inches, where it assumes its state of *chrysalis*, in which it continues until the first of July, when it becomes metamorphosed into the *imago*, or parent, which in autumn, deposites its *ova* in the fields, to undergo a similar series of transitions, which is effected by the heat of the ensuing season.

The obvious preventive is fall or winter ploughing, at such a depth as will turn up and expose to the frost the *ova*, whereby they must perish.

To prove the efficacy of this method, in December, 1836, a field which I designed for corn, was ploughed four or five inches deep; the following season, my neighbors' corn fields, as well as those of the county generally, were assailed and nearly ruined by this destructive worm, when mine was almost wholly exempt from their annoyance.

Another insect, the "*curculio*," of which there are nearly one hundred species, belonging also to the *coleopterous* order, commands, from its universal ravages, upon both the farmer and the fruiterer, the attention of every member of the community, who has it in his power to contribute, in the smallest measure, to the destruction of this ruthless foe to the wealth and luxury of man; which frustrates, by its concealed and wily movements, the most rational and well founded plans, executed by the most ardent and efficient energies of the human mind and body. Are we not inclined to exclaim, with the moral and philosophical Seneca, "*Natura quam te colimus inventi quoque.*" How repugnant to the proud feelings of man, to stoop to combat with this insignificant animalcule! How

resistless are the ordinances of nature, which compel us, by acts so humiliating, to admire and adore that complex creation, whereby the great architect has seen fit to enforce them!

I have made experiments on the *larvæ* of several specimens of *curculiones*, and have found the parents so nearly similar in *habitat*, metamorphoses, and most other circumstances, that one description will suffice for their whole history; at least of those which I have examined; and the only mark of idiocrasy in the tribes which I have observed, consist in their choice of a *nidus;* selecting, from their peculiarities in this respect alone, the cherry, the plum, or the grain of corn, as their instinctive or innate propensities might incline them.

In a transparent bottle containing some earth, I deposited several cherries, in which were the *larvæ* of the *curculio*, that infest that fruit; in a few weeks, or rather as soon as the pulp of the fruit was consumed, which was at different periods, they retreated into the earth, where upon examination some time after, I found they had assumed the state of *chrysalis*, which shortly resulted in that of the *imago* or parent; the wings of the insects were not sufficient to accomplish a flight, but merely to assist its ascent of the body of a tree; from which circumstances, I was led to the following reflections and experiments to test their correctness:

That the remedy must be such as would act, physically, to wit—to interrupt the metamorphoses, by preventing the descent of the *larvæ* into the earth; to expose to the weather, the *pupa*, after its descent; or to intercept in its ascent of the body of the tree, the parent insect; or, chemically—by substances, known to be generally deleterious to that class of animals.

The fruit being the *nidus* of the *ovum*, and the earth the *habitat*, in which it is brought to maturity and makes its abode, and the *larva*, from its soft and delicate structure, incapable of travelling, or sustaining exposure; when the fruit containing the *larva* has fallen and is rotted and consumed by the insect, the *larva must* descend, by the most direct route from its original depository, the fruit, into the earth, its permanent abode, there to undergo the metamorphoses, which will bring it to maturity, and fit it for a new series of depredations, which is so secretly performed, that though myriads are employed, they are never detected in executing their work of de-

struction, the deposite of their *ova*. Hence I concluded, that one of the most effectual preventives, would be paving with brick, stone, shells, or some other hard substance, impervious to the soft *larva*, a circular space round the fruit tree, as extensive as the fall of the fruit; by which it would be interrupted in its descent in the earth, and consequently perish; or that it might be accomplished, by turning up the earth under the tree to the same extent, and thereby exposing to the inclemency of the weather, the tender *pupa*, of which two methods, the former is to be preferred; because thereby you arrest the passage of the *larva* to maturity, and necessarily destroy it. The latter method, if not performed in time, may allow the perfection of the *imago*, and in this state it is unquestionably more hardy and capable of providing another habitation, as secure and comfortable as that of its first election. And by the experiments which I have made, its descent and maturity are at uncertain and unequal periods, which would make an insuperable difficulty, in point of time, for performing the operation; if before the descent, it would necessarily be useless; if after the maturity, equally so, for reasons given.

This view of the subject has led me, repeatedly, to both experiments, which I have fairly and impartially made without the influence of any prejudice, which it might be presumed, my reasoning had connected with, or in favor of the former; the result was, the fruit with which I made the experiment that had been destroyed by *curculiones*, for many years, were in all cases, when I paved or shelled, entirely exempt; in two cases only, when the earth under the tree was turned up, at different seasons, the fruit escaped injury, but from the number that failed, I was inclined to ascribe these two to causes accidental and extrinsic.

The third method proposed, viz: to intercept the parent in its ascent of the body of the tree, by various obstacles which the mind will readily suggest, and thereby prevent its deposit of *ova*, though I have made no experiments upon it, I conceive to be rational, and easily accomplished, and with those species of *curculiones*, of which there are many, whose wings do not admit of flight, but assist them only in climbing, it would undoubtedly be effectual.

The fourth remedy which I propose, of a chemical nature, I have made but partial experiments to establish, such as are not yet satis-

factory or conclusive; when finished, it will give me pleasure to report them, if the result be successful, by a fair and candid detail of facts.

I fear I have already trespassed on your patience, and will venture merely to notice the parent of a singular *larva*, which some years ago, very generally, throughout the state, as you no doubt remember, threatened to exterminate the whole vegetable creation, as far as it travelled; in whole districts, not a solitary blade of wheat, oats, or rye, nor a remnant escaped its voracious appetite, and the grass was swept, in this march, as if by a scorching fire. So formidable were the destructive multitudes, that fosses, abbatis, and parapets were constructed, to repel their advances, and the ditches were filled with their dead bodies. I deposited in bottles, with earth, several of these *larvæ;* they shortly went into *chrysalis*, and came out a fly of the *lepidopterous* order, precisely like the candle-fly, in all respects. This result, I report, because numerous as they were, and as much alarm as they occasioned, I have never seen a notice of a similar experiment; and it may, in case of a return of these hosts of enemies, afford a clew to their destruction. We at least are not averse to know something of an enemy, which has, and may again assail us with more disastrous ravages.

If, sir, the present communication shall have the effect of inciting to inquiry, on these interesting subjects, the enterprising and intelligent farmer—if the plan of research which I have ventured to suggest, shall afford him any assistance—if I have added one ray of light, whereby more may be obtained—my purpose is answered, and my most sanguine expectations fulfilled.

Art. III.—*The Cherry Tree.*

This tree was procured and brought into Europe by the overthrow of Mithridates, king of Pontus, when he was driven from his dominions by Lucullus, the Roman general, who found the cherry tree growing in Carasus, a city of Pontus, now called Keresoun, a maritime town belonging to the Turks in Asia, which his army destroyed, and from whence it derived the present name of *cherry*.

Lucullus, who was as great an admirer of nature as he was of the arts, thought his tree of so much importance, that when he was granted a triumph, it was placed in the most conspicuous situation among the royal treasures which he obtained from the sacking of the Capitol of Armenia; and we doubt much if there was a more valuable acquisition made to Rome by that war, which is stated by Plutarch to have cost the Armenians one hundred and fiftyfive thousand men: we may justly style it the fruit of the Mithridatic war.

Botany seems to have been as much studied in early times by distinguished persons as at present. In this instance we find the conquered and the conquerer both botanists. Mithridates, whom Cicero considered the greatest monarch that ever sat on a throne, and who had vanquished twentyfour nations whose different languages he had learned, and spoke with the same ease and fluency as his own, found time to write a treatise on botany in the Greek language. His skill in physic is well known; there is even at this day, a celebrated antidote, called Mithridate.

It was in the 68th year, B. C., that Lucullus planted the cherry tree in Italy, and which 'was so well stocked,' says Pliny, 'that in less than twentysix years after, other lands had cherries, even as far as Britain beyond the Ocean.'

Some idea may be formed of the Roman gardens, by the luxurious manner in which Lucullus lived in his retirement from Rome and the public affairs. He had passages dug under the hills, on the coast of Campania, to convey the sea water to his house, and pleasure grounds, where the fishes flocked in such abundance, that what where found at his death sold for more than eight hundred thousand dollars. Pliny mentions eight kinds of cherries as being cultivated in Italy, when he wrote his Natural History, which was A. D. 70. 'The reddest cherries,' says he, 'are called *apronia;* the blackest, *actia;* the Cæcilian are round. The Julian cherries have a pleasant taste, but are so tender that they must be eaten when gathered, as they will not endure carriage.' The Duracine cherries were esteemed the best, but in Picardy the Portuguese cherries were most admired. The Macedonian cherries grew on dwarf trees; and one kind is mentioned by the above author, which never appeared ripe, having a hue between green, red and black. He mentions a cherry that was grafted, in his time, on a bay tree stock, which circum-

stance gave it the name of *laurea;* this cherry is described as having an agreeable bitterness. 'The cherry tree could never be made to grow in Egypt,' continues Pliny, 'with all the care and attention of man.'

Lord Bacon has clearly elucidated what the ancients considered the sympathy or antipathy of plants. 'For it is thus,' says this great man, 'wheresoever one plant draweth such a particlar juice out of the earth, as it qualifieth the earth, so that juice which remaineth is fit for the other plant; there the neighborhood doeth good, because the nourishments are contrary or several; but where two plants draw much the same juice, then the neighborhood hurteth; for the one deceiveth the other.'

The cherry, like many other kinds of fruit, has had its sorts so multiplied, by various graftings and sowing the seeds, that we now enjoy a great variety of this agreeable fruit, and for a considerable portion of the summer, as it is one of the first trees that yields its fruit, in return for the care of the gardener. From the ripening of the Kentish and the May Duke to the Yellow Spanish and the Morells, we may reckon full one third of the year that our desserts are furnished with this ornamental fruit; and to those who have the advantage of housed trees, the cherry makes a much earlier appearance, as it is a fruit that bears forcing exceedingly well.

Cherries have ever been found more tempting than wholesome. Pliny says, 'this fruit will loosen and hurt the stomach; but when hung up and dried, has a contrary effect.' He relates, that some authors have affirmed that cherries, eaten fresh from the tree when the morning dew is on them, and the stones being also swallowed, will purge effectually, as to cure those who have the gout in their feet.

The wood of the cherry tree, which is hard and tough, is next to oak for strength, and comes the nearest to mahogany in appearance.

Judiciously planted, the cherry tree is very ornamental in the shrubbery. Its early white blossoms are contrasted with the sombre shades of evergreens in the spring; and its graceful ruby balls give a pleasing variety in the summer.—*Naturalist.*

Art. IV.— *The Brussa Mulberry.*

We are indebted to Mr Rhind, (who negociated the treaty of the United States with Turkey, and was long a resident of the latter country,) for the following extracts which formed part of a correspondence between Mr Rhind and Judge Spencer of New York. Mr Rhind has taken so much interest in this subject and has had such good opportunities to form correct opinions, that his authority deserves to be held in great respect. His favorable opinion of the Brussa mulberry, therefore, offers a sufficient inducement to rear that kind, and to give it a fair trial of comparison with others. But we should at present distrust the *seeds*, for propagating the same kind, unless it is avowed that they have been tried, and found not to produce other varieties, as is the case with the *Morus multicaulis.*— *Virginia Farmer's Register.*

Extract of a Letter from Mr Rhind to Judge Spencer.

"During the reign of the emperor Justinian, when the two monks were sent by him to *Seres* to bring from thence the eggs of the silk worm, it is natural to suppose that they would also adopt the precaution to bring with them the seeds of the tree which afforded the *pabulum* or nourishment for the insects; and it is highly probable that while the hollow cane of one monk carried the eggs of the insect, that of the other carried the seeds of the tree,* if such was the case, the first mulberry plantations must have been in the vicinity of Constantinople. The country called *Seres*, by the ancients is generally admitted by modern writers, to be *Little Bucharia*, and *that* country is situated in a latitude similar to Brussa, in Asia Minor, not far from Constantinople. This species of the mulberry flourishes best in high and *even poor lands;* and *Brussa*, being situated on the rise of Mount Olympus, has a climate and soil closely resembling that of *Little Bucharia*, and the superior quality of the *Brussa* silk, over all others, in the markets of Europe, would seem to evince a congeniality of soil and climate. Mount Olympus is perpetually covered with snow, and the basis of the mountain

*Some authors affirm, that the monks first brought the seed of the tree *only*, and that the emperor sent them back to Seres, for the eggs of the insect.

(near which Brussa is situated,) being in my opinion, more similar to our climate than any other in the latitude, I was induced to select the seed of the *Brussa mulberry tree* in preference to those of any other place, as one more likely to endure the rigors of our severe winters, and not be so subject to the effect of the frost, as trees brought from more southern latitudes, or warmer climes.

"The leaves of the *Morus alba* of Brussa are said to contain a much greater quantity of saccharine matter, than any other of the white species, and moreover, the leaf is much larger than those of Italy and Spain; it is also a hardy tree, susceptible of being raised in climates, where the frosts are severe. I therefore believe, that the *Morus alba* of *Turkey*, is decidedly the best for our climate, and next to it, those of Italy and Spain; although the latter were, I presume, originally obtained from the east, as we find the culture progressing from Asia, through Greece, Sicily, the Balearic islands, Spain, and Italy, and eventually to the south of France. It is probable that the species has degenerated more or less in those countries, since neither of them produce an article of commerce, equal to that of Brussa, notwithstanding the cultivation and manipulation of silk, in Turkey, is far inferior to that of Italy or France; I consequently attribute the superiority in the quality of the former, to the greater quantity, or richer nature, of the nutritive substance contained in the leaf.

"The *Morus multicaulis*, although possessing a larger leaf than those of Brussa, does not, I apprehend, contain an equal quantity of nutritive matter. Count Dandolo says, that the leaves of the broad leafed white mulberry, contain but little saccharine matter; and I hence infer that the *multicaulis*, being of similar species, contain less saccharine matter than the *hardy alba* of colder climates. In southern latitudes, similar to those of China, where it is said to be cultivated to most advantage, and where frosts are unknown, the *multicaulis*, may be most suitable; but for our climate, the *Morus aloa* is decidedly the best and safest. Future experiments will doubtless elicit the comparative excellence of the different species. But since we know that the *Brussa Tree* is of superior quality, and I have proved that it will endure the severity of our winters, (for the last three were unusually severe, and although young as they were,

not a single tree was lost,) hence they may now be considered as acclimated.

"That silk can be produced with infinitely less trouble than is generally supposed, I am fully persuaded; and I have, in the course of my travels, visited most of the silk growing countries, and gave considerable attention to the subject.

"The culture of silk is peculiarly deserving the encouragement of patriotic and benevolent men, inasmuch as it will afford (in its different manipulations,) a living to the most helpless of our race; *aged* and *decrepit* persons, and *children*, can all be employed in some part of the process, and to a portion of the female sex who may have been reared in luxury and indulgence, but by change of fortune have become reduced, yet are willing to labor, rather than depend on the cold hand of charity, or the benevolence of friends, this culture will afford a certain and independent living, without exposing them to the scoffs and scorns of a selfish world.

"In the city of *Brussa* containing about 100,000 inhabitants, their principal occupation is the production of silk. When the *crop-season* commences, the leaves are brought to the city by the cultivators, in baskets, and sold in the market in quantities to suit purchasers, in the same manner as fruits and vegetables. Almost every family when the season begins, clear out the rooms of their dwellings, (reserving one or two apartments to live in) and fill the rest *on the floors*, with the worm. The women and children chiefly attend to feeding them, and when the worms form the cocoons (generally in about six weeks) *they* (the women and children) reel the silk, which is then ready for market, and thus in little more than six weeks, they gain sufficient to support their families, (in their simple style of living,) until the next season."

Extract of a Letter from Judge Spencer to Mr Rhind.

"The trees which I received from you [Brussa mulberry, of three years old] indicate great hardihood, and I should think, not only from their not having suffered at the extreme points, and also from Mr Bradish's account of the trees, that they will endure our climate perfectly well; almost every tree has put forth leaves, and they are considerably larger and thicker than the white mulberry leaf. The Brussa leaf is nearly, if not quite equal to the Morus multicaulis."

At the annual fair of the American Institute, at New York, in October last, specimens of the leaves of the *Brussa** tree, of different years' growth, were exhibited, and excited universal approbation, and the Institute awarded a silver medal for the introduction of this invaluable tree, observing in the report of the committee, "that *these* with every new and useful plant, calculated to withstand the rigors of our climate, are worthy of attention, and those introducing them into our country, deserve to be placed on *the catalogue of our country's benefactors.*"

Art. V.—*Scolytus Destructor.*

This insect, which has been so much brought before the notice of the public, from the extensive ravages committed by it on the elm trees in Kensington Gardens and along the western line of road, and for the injudicious means of exterminating which, one of the finest ornaments to the metropolis has nearly been destroyed, has latterly excited a great deal of entomological notice. During the past season, some thousands of trees have been rooted up indiscriminately, but so little effect has been produced that many are still standing which teem with countless *larvæ* ready again to commence the work of destruction. The disease is known by the bark being separated, and full of erosions made by the female parent, and the *larvæ* in the inner bark and soft wood, and when these become numerous, they occasion the death of the tree by preventing the ascent and descent of the sap. For a long time the insect eluded notice, and some few years since, the devastation it produced was attributed to other causes, and suspected to have been in many instances the result of malicious injury. Some of the sentinels on duty at St. James's Park were actually apprehended, and an investigation was made which ended in their discharge and the discovery of the cause of mischief. In the year 1825, an avenue of elm trees in Camberwell-grove, were attacked by the disease, which was supposed to be brought on by the gas

* In the publication of the Institute, the word *Russia* has been erroneously substituted for *Brussa*—*vide* the publications of the Institute for November and December, 1836.

which escaped from the pipes laid down along the road, being absorbed by the roots, and which gave rise to a suit in Chancery between the inhabitants and the proprietors of the gas works. The trunks, when examined in 1826, were found to be infested with an immense number of larvæ feeding on the soft inner bark. The insect, as an enemy to elm trees, first attracted the notice of entomologists about the year 1824, soon after which an inquiry was made by competent naturalists under the authority of government.

The female insect commences its injury about July, by boring through the bark, until she has reached the point between the soft wood and inner bark, when she forms in the latter a vertical channel, usually upwards of two inches long, on each side of which she deposites her eggs as she advances, to the number of from 20 to 50. About September the larvæ are hatched, when they commence feeding upon the matter of the inner bark, at the edge of the channel, and in a very slight degree on that of the soft wood opposite, advancing as they feed, in a course of about right angles from the primary channel and on each side of it. When the larva has finished its course of feeding, it stops in its progress, turns to a pupa, and then to a beetle; after which it gnaws a straight hole through the bark and comes out. The beetles come out about the latter end of May, in the year following that in which the eggs are deposited; the sexes afterwards pair, and the female, bearing eggs, bores through the bark, and so on from generation to generation, and from year to year.

The infested trees may be easily recognized, as the bark will be found perforated by small holes, as if made by a shot or brad awl, in several parts, whilst small particles like saw-dust will be found on the rough surface of the bark, and at the foot of the tree. The *Scolyti* never attack dead trees; they seldom destroy the trees they attack, the first year that they commence their ravages; and they prefer a tree that they have already begun to devour, to a young and vigorous tree. It is stated, that at least 80,000 have been known to attack a single tree. From observations made, it appears that the females never deposite their eggs in trees perfectly healthy, but that both they and the males pierce young and healthy trees for the purpose of eating the inner bark which constitutes their food, and that the numerous holes they thus cause, partly from the loss of sap which exudes from them, and the absorption of rain which

lodges in them, will bring the trees in which they occur into that incipient state of ill health, in which the females select them for laying their eggs, and that thus healthy trees are effectually destroyed by the combined operations of the *Scolyti* of both sexes, though not solely in consequence of the depositure of the eggs of the female.

The practical directions resulting from a knowledge of the economy of the *Scolytus*, when there is reason to suspect its presence, are, first to pare away the exterior rough bark with a cooper's spokeshave or other convenient tool, thus admitting of a distinct inspection of the actual state of the trees, which, if having no trace in the inner bark either of small holes in old trees, or those superficial furrows which they make for food in young trees, may be pronounced sound and healthy, and to require no further attention. If the inner bark should exhibit any of these appearances, it is next to be ascertained whether the female has already deposited her eggs in it, and if it contain larvæ, (which may be known by cutting away portions of the bark down to the actual wood,) should their existence be proved, the trees should be cut down, the bark peeled off, and every fragment carefully burnt. Trees which have been merely pierced for food may be carefully branched over with coal tar, the smell of which is highly offensive to the insect, and when this is repeated for a year or two, they are enabled to resume their vigor, and grow healthy. It is thus that a great number of the young elms in the Boulevards at Brussels were brought into an incipient state of debility by the attacks of the *Scolyti* for food, and though not then attacked by females, were healed last spring, with every prospect of a succesful result. In Kensington-gardens, the cutting down of a few trees, and the judicious treatment of others, would, there is every probability, have saved that indiscriminate felling of sound with decayed trees which has taken place, and this metropolitan ornament might have been saved. Not only in London, but in the promenades of the principal cities of the North of Europe, the greater proportion of the fine elms have fallen victims to the ravages of the *Scolytus destructor*, and it has lately been found necessary to cut down 50,000 young oaks in the Bois de Vincennes near Paris, in consequence of the attacks of another insect of the same tribe, *S. Pygmæus*.

ART. VI.—*List of New and Rare Plants.* From Foreign Works. Noticed since our last.

1. *Acropera Loddigesii*, Mr Loddiges' Acropera. Natural Order, Orchidaceæ. Linnæan Class, Gynandria; Order, Monandria. Synonym; Maxillaria galeata. The flowers of this plant are very singularly handsome; they are produced numerously in large pendant racemes, each flower is about an inch and a half across. Sepals of a pretty brownish-yellow. Lip of the same color. Column, greenish-yellow spotted with red. The plant was introduced into this country by Mr George Loddiges, from Xalapa of Mexico, and has bloomed in Mr Loddiges' collection, and in that of the Glasgow Botanic Garden. It merits a place in every collection of Orchideous Epiphytes. *Acropera*, from *akros*, the extremity, and *pera*, beyond, alluding to the little saccate appendage at the tip of the Labellum.

2. *Anagallis Monelli*, Var. Celacina. Lilac flowered Italian Pimpernel. Primulaceæ. Pentandria Monogynia. This very handsome flowering variety has been raised between A. Monelli and A. Fruticosa. It has flowered in the collection of the Hon. W. T. H. F. Strangways, Abbotsbury Castle, Dorsetshire. The flowers are of a rosy, lilac color, about the size of A. fruticosa. It is a very pleasing variety, well meriting a place in every collection. This as well as its parents are very beautiful flowering plants for a bed in the flower garden during summer, where they make a most brilliant display. Botanists, in general, seem now agreed, that the A. Monelli and A. Grandiflora are nothing more than mere varieties. *Anagallis*, from *anageleo*, to laugh, applied by the ancient Greeks to a plant beneficial in diseases of the liver.

3. *Begonia Monoptera.* Single Winged. Begoniaceæ. Menæcia Polyandria. Mr Otto, of the Royal Berlin Garden, has most obligingly sent over to this country several highly interesting, and ornamental species of Begonia. The present species is very handsome. The flowers are white, produced numerously in a terminal raceme. The stems and leaf stalks are of a light red color, as is the under side of the leaves. The plant is a native of Brazil, from whence it was sent by Mr Deppe. *Begonia* in compliment to M. Begon.

4. *Cereus serpentinus.* Serpent-like. Cacteæ. Icosandria, Monogynia. Mr Mackay of the Norwich Nursery, purchased the very fine collection of succulents formerly belonging to Mr Hitchin, and the present species has bloomed with Mr Mackay. It is a night blooming species, the flowers remaining expanded about as long as C. Grandiflorus. The flowers are of a pale whitish flesh color inside, and a reddish black color outside. The tube is about four inches long. *Cereus*, from *cereus*, pliant, alluding to the shoots.

5. *Ceropegia stapeliiformis.* Stapelia-like. Asclepiadeæ. Pentandria Digynia. This most curious flowering plant has bloomed in the Glasgow Botanic Garden, where it had been sent from Kew Gardens. It is thought to be a native of the East Indies, and requires a hothouse temperature. The stems very much resemble those of a Stapelia. The flowers are very singular. Corolla two inches long; tube curved, expanded upwards to form the limb, which is cut into five segments, they are dark purple outside, white and hairy within. The tube is of a greenish white, much spotted with deep purple. The five segments of the corolla curve backwards, and the sides reflexed, so that the upper side having the form of a sharp keel, presenting a most singular appearance. *Ceropegia*, from *keros*, wax, and *pege*, a fountain.

6. *Chryseis compacta.* Dwarf Chryseis. Papaveraceæ. Icosandria Tetragynia. Synonym. Eschscholtzia, compacta. The present species differs from C. crocea, and C. californica, in being of a more dwarf habit, and very compact in growth. The flowers too are rather less: they are of a fine bright yellow, with a deep orange centre. The plant deserves a place in every flower garden. *Chryseis*, a celebrated Homeric beauty, the name alluding to the gold color of the blossoms.

7. *Clarkia gauroides.* Guara like Clarkia. Onograria. Octandria Monogynia. A hardy annual, sent by the late Mr Douglas from California, to the London Horticultural Society, in whose garden it has bloomed. It is not near so handsome as either C. pulchella, or C. elegans. The flowers are about an inch across, of a lilac-purple color. They are produced on terminal racemes, but the blossoms are very distant from each other, much more so than in C. elegans. *Clarkia*, in compliment to captain Clark, who accompanied Captain Lewis to the Rocky Mountains.

8. *Datura guayaquilensis.* Guayaquil. Thorn Apple. Solaneæ. Pentandria Monogynia. Mr Tweedie sent seeds of this species from Peru to Dr Neill, in whose fine collection at Cannon Mills, near Edinburgh, it has bloomed. It had been grown in the stove. It appears that it blooms in February and March; in its native country, where it grows abundantly in moist places, on the shores of the Pacific, near Guayaquil. The plant is annual, growing three feet high. The flower, with its tube, is about six inches long; corolla, upper half white, lower part greenish. The mouth of the flower opens about two inches. It is very probable that good strong plants, planted out in the open border during summer, would bloom very freely.

9. *Delphinium Barlowii.* Mr Barlow's Larkspur. Ranunculaceæ. Polyandria Trigynia. This very superior variety was raised by Mr Barlow, near Manchester, some few years back. The splendor of its fine double blossoms, renders it a very desirable plant for every flower garden. It blooms during the greater part of summer, its fine blue flowers tinged with a purplish hue at the centre, produce a most charming effect. The spikes rise from three to seven feet high. The plant may be had of most nurserymen, or florists. *Delphinium*, from *Delphin*, a Dolphin, the resemblance of the nectary of the flower.

10. *Echinocactus sessiliflorus.* Sessile-flowered. Cacteæ. Icosandria Monogynia. Bloomed in the fine collection of Mr Mackie of the Norwich Nursery. The spines are short and white; the plant blooms freely, producing several blossoms every year. Mr Mackie cultivates the Echinocactus tribe with great success. The plants are grown very near the glass, and in the summer time, in a very high temperature, by keeping the top sashes of the house closed. Strong light and heat are very necessary for the blossoms expanding in perfection. Some of the kinds close their blossoms immediately on being removed to a cooler place. It is very necessary to have the pots well drained, as the roots are liable to decay if the earth is at all sodden with moisture. All the kinds thrive best in a good encircled soil, well drained and planted in small pots.

11. *Epidendrum diffusum.* Spreading Epidendrum. Orchideæ. Gynandria Monandria. A native of Jamaica, where it is a frequent inhabitant of the trunks of trees. It has bloomed in the collection

at the Glasgow Botanic Garden. The flowers are pointed in terminal panicle, six to eight inches, or a foot long, very branched. The flowers are small, little more than half an inch across, very narrow petals, of a light greenish yellow color. The flowers are rather uninteresting. *Epidendrum*, from *epi*, upon, and *dendrum*, a tree, growing upon.

12. *Gesnera laterita.* Brick-red. Gesneraceæ. Dedynamia Angyospermia. The plant is a native of Brazil, and has bloomed in the stove in the garden of the London Horticultural Society. The flowers are of a fine red color, an inch and a half long. *Gesnera*, in compliment to C. Gesner, a celebrated botanist.

13. *Lachenalia pallida*, Var. Cærulescens. Blue-flowering pallid Lachenalia. A native of the Cape of Good Hope, where it occupies the situation as that of the blue-bells and squills of the European countries. The flower spike is about five inches long, each flower nearly as large as a common blue-bell, of a light-blue color. *Lachenalia* from ——

14. *Lælia anceps*, Var. Barkeriana. Mr Barker's variety. Orchidaceæ, Gynandria Monandria. It is a striking variety of Lælia anceps; it differs however in the petals being much narrower, but much the same size as the sepals. The middle lobe of the lip is narrower and sharper. The sepals and petals are of a beautiful lilac color, much like Cattleya labiata. Each flower is about four inches across. The Labellum is of a dark crimson red color, with the inside white and striped. The plant is a native of Mexico, imported by Messrs Lowe & Co., Clapton Nursery. It has bloomed in the collection of George Barker, Esq. Birmingham.

15. *Limnanthes Douglassii.* Mr Douglas's Limnanthes. Limnantheæ. Decandria Monogynia. This family appears to hold an intermediate station between Geraniaceæ, and Tropœoleœ. It is a hardy annual, thriving best in a soil composed of peat and loam. The stem of the plant rises about nine inches high, branched, flowering freely, each blossom being about an inch and a half across. The lower half of the flower of a bright yellow, the upper half white. Altogether being pretty. *Limnanthes*, from *limen*, a lake, and *anthos* a flower. Alluding to its habits.

16. *Monochanthi et Myanthi, oristati proles biformis.* Orchideæ. Gynandria Triandria. A plant of the *Myanthus barbatus*

flowered in the fine collection at Chatsworth, and it also produced a perfect spike of *Myanthus cristatus* at the same time. A vigorous state of culture has a tendency to favor the production of monstrous flowers. A gentleman, who resides in Demerara, states that a flower spike of Gatasetum, often has on it several distinct kinds of flowers. The spike of bloom at Chatsworth had seven flowers of M. cristatus at the upper part of the spike, and seven of M. barbatus below them. The flowers of the former are of a greenish-yellow color, destitute of any spotting with darker. Those of the latter are green spotted with red. The lip has a number of fleshy teeth projecting from the sides and end. Dr Lindley states in remarks on this sportiveness in orchideæ, that "the necessary consequence of this in the case of M. barbatus and cristatus is, that the supposed genera Myanthus and Monachanthus must be restored to catasetum." And Dr Lindley further observes, that, he has no doubt that the genus Mormodes must share the same fate.

17. *Nemophila atomaria*, Speckled flowered. Hydrophyllacea. Pentandria monogynia. A hardy annual, probably from California. it was introduced into this country the last year. The flowers are about half an inch across, white, with a slight tinge of blue at the centre, and spotted with small lead colored spots. When put in contrast with N. insignis, it is an uninteresting species. *Nemophila* from *nemo* a grave; and *philo* I love, referring to its native habitation.

18. *Nuttallia cordata*, Heart leaved. Malvaceæ. Monadelphia Polyandria. A native of North America, where it had been collected bp the late Mr Drummond; and it appears forwarded to the Glasgow Botanic Garden. It is another pretty addition to this handsome genus. The flowers are of a pretty blush color, each an inch and a half across. It well deserves a place in every flower border. *Nuttallia*, in compliment to Mr Thomas Nuttall, a writer on Botany in North America.

19. *Oncidium Cebolleta.* Round-leaved. Orchideæ. Gynandria Monandria. Synonyms Epidendrum Cabolleta. Epidendrum juncifolium. Orcidium juncifolium. Cymbidium juncifolium. Dr Sir W. J. Hooker observes, " that, I am not aware that the flowers had been seen in this country, till a fine panicle appeared in the stove of the Glasgow Botanic Garden, and another plant blooming in the

collection of Charles Horsfall, Esq., Liverpool. The plant is a native of Trinidad. The flowers are produced numerously on a scape about two feet high, much branched and panicled. The flowers very much resemble those of Orcidium flexuosum. They are of a bright sulphur yellow color, spotted with deep red, producing a very neat and pretty appearance. The plant deserves a place in every collection.

20. *Pentstemon Creviflorus.* Short-flowered. Scrophularinæ. Didynamia; Angriospermia. A native of California, from whence it was sent to this country by the late Mr Douglas. It is a hardy perennial, of delicate habit. It produces a profusion of flowers which are small, of an orange red outside before expanding, afterwards of a white and purple color. Though not as showy as many of this tribe, yet it is an interesting and pretty plant.

21. *Petunia violacea: hybrida.* Purple Petunia, hybrid varieties. Solanceæ Pentandria Monogynia. The impregnation of P. violacæ and P. nyctaginiflora, has produced several very charming varieties, such as, *Pale Pink* with a dark centre; *Sulphur* with dark centre; *White* with dark centre, and other streaked and veined with dark. The size of the flowers of some of these hybrids has been much increased, some being three inches across. All the tribe merit a place in every collection of greenhouse, or border plants for summer, being highly ornamental in either situation. *Petunia*, from *Petun*, the Brazilian name.

22. *Phycella brevituba*, Short-tubed. Amaryllidacæ. Hexandria Monogynia. A neat and pretty species, which it appears will flourish out of doors if planted in a dry and warm situation. The Honorable and Reverend Mr Herbert has grown it successfully in this way, and in his treatise on Amaryllideæ, to be published this month, some instructions upon their treatment will be given, which being the result of many years observation and practical experience will be very valuable. Phycella from *phykos* red alkanet color.

23. *Trichocentrum fuscum.* Brown-flowered. Orchideæ. Gynandria; Monandria. Introduced into this country by Mr Knight, from Mexico, with whom it has bloomed in July last year; the flowers are small but pretty; green, white, red, and yellow intermixed. Neat and pretty.

24. *Rytidophyllum auriculatum*, Gesneriaceæ. Didynamia Angios-

permia. Recently introduced into this country to the Glasgow Botanic Garden, its native country is not known, but it is probable from the West Indies consequently (if so) will require a hot house treatment. The stem rises several feet high producing cymes of flowers of a fine yellow, spotted with red inside, and a yellowish green outside. The tube is nearly an inch long, and the five parted monophyllous corolla is near three quarters of an inch across. Rytidophyllum, from *rutis*, *idos*, wrinkle : and *phyllum* a leaf.— *Flor. Cabinet.*

Art. VII.—*Renanthera Coccinea.*—*Chinese scarlet-flowered Air Plant.*

The merits of this magnificent plant were for a long time only known from the statements of a few individuals who travelled in China, together with a figure in the possession of the London Horticultural Society, and some remarks in the work of Loureiro, a missionary, published in 1790 ; until a few years ago a plant flowered in the gardens at Claremont, from which a beautiful drawing was made for, and inserted in, the Botanical Register. The species had been at different times imported from China, and recognized amongst orchideous plants for its long leafy stems and fleshy veinless leaves; and from the peculiarity natural to all epiphytes, of attaching itself to damp or dry walls, pieces of wood, or any other body within reach of its long fleshy tortuous roots. A long time elapsed, after it had become general in collections, before a correct notion could be formed of the beauty of the flowers or the precise nature of the inflorescence. The reports of all travellers who had seen the flowers allowed them to surpass almost every other vegetable product known. Dr Lindley observes, in the Botanical Register, when speaking of this plant, that " the cause of previous want of success in inducing it to flower, has resided in its having been cultivated in too dry an atmosphere. Mr Fairbain, gardener to his Royal Highness Prince Leopold, at Claremont, impressed with this opinion, tried the effect of tying moss around the stems, and keeping it constantly damp, exposed as much as possible to the influence of the sun ; with what success his experiment has been re-

warded, appears from the accompanying representation of a portion of a panicle, two and a half feet long, which was finally produced in the hothouse at Claremont, in October, 1827." Now it appears to us, that a mistake has arisen as to the real cause of its flowering. In this we are well supported by the fact of the plant having rarely—we might almost say never—produced flowers in those collections where great moisture is kept up during the whole of the season. At Wentworth, under the superior treatment of Mr Cooper, the species has flowered several successive years; and it is well known, that that intelligent cultivator never washes his plants over head, nor keeps up amongst them a heavy moist heat. The plan was adopted with the plant that flowered at Chatsworth, and of which our present figure represents a portion, was as follows:—About April, 1836, we had a plant put into a small house appropriated to the growth of a few stove plants, in which the heat varied from sixtyfive to seventy degrees; it was kept free from moisture, except what rose from watering and occasionally syringing.

Here the whole of the plant was exposed to the direct rays of the sun, and, as might be expected, this treatment caused the leaves slightly to shrivel, as well as turn a little yellow, but, by occasionally washing them over in the afternoon with the syringe, the plant did not suffer much; after it had been exposed in this situation for three months, we had the satisfaction of seeing two fine spikes of flowers pushing forth, one of which came to maturity. We have little doubt, if proper attention is paid to placing the plant well up to the glass, and without the use of shade, that a flower bud will soon make its appearance on a well established plant; it is necessary here to observe, that the plant ought to be six or eight feet high before this experiment is attempted. It is no wonder that the Chinese take pride in suspending from the ceiling of their rooms many of this interesting tribe, in coarsely wrought wooden baskets, some for the sake of their magnificent flowers, and others for their delightful fragrance. The plant at Chatsworth, when in flower, was truly splendid, but scarcely fragrant, and being placed in the cool end of the orchideæ house, it continued beautiful for nearly four months; and there is no reason to doubt, if the plant had been placed in a light situation, in a much cooler house, or even in the drawing room, but that the flowers would have continued perfect nearly as

long. It will succeed well in peat mixed with reduced potsherds, if placed carefully about the roots so as to ensure a safe drainage, or in *spagnum* or *hypnum* moss cut short and packed closely about the roots. Young growing plants will not succeed better in any place than where a strong heat and an abundance of moisture is kept up; any of the young branches taken off and potted in moss, will soon make young plants.

The accompanying wood-cut is a diminished representation of the plant, showing the mode of growth, and situation of the flower spike. In the woods in Cochin China, it is found growing on trees.

The generic name *Renanthera*, says Mr Loudon, is contrived by Loureiro, to express the kidney-form or reniform shape of the pollen masses.

The specific name, *coccinea*, signifies scarlet, or carmine, slightly tinged with yellow.—*Paxton's Magazine of Botany.*

Art.. IX.—*On the Disease of Young Apple Trees.* By Mr. N. Harwood.

Having, for some years past, discovered that there was an evil attending our young apple trees, I have made some observations on the subject, which I shall communicate, in hopes they may be the means of leading to the discovery of some more effectual remedy.

The difficulty is what is commonly called lice, and is generally considered, by a superficial observer, nothing more than a kind of natural cutaneous eruption of the bark; but they are in fact, living lice. They appear, in form, like half a kernel of rye, but not more than one-tenth part so large, with the flat side sticking to the smooth bark of the tree. They resemble blisters, and are near the color of the bark of the tree. These blisters contain nits or eggs, in form like a snake's egg, which, in a common season, begin to hatch about the 1st and finish about the 15th of June. These nits produce a white animalcule resembling a louse, so small that they are hardly perceptible by the naked eye, which, immediately after they are hatched, open a passage at the end of the blister, and crawl out on the bark of the tree; and there remain, with but litle motion,

about ten days, when they stick themselves fast to the bark and die. From this little carcase arises a small speck of blue mould, which is most plain to be seen between the 15th and 25th of June, and continues about twenty days, and then gradually wears off until the old carcase appears, which by this time is formed into a new blister, and contains the spawns or nits before mentioned. These blisters prevent the circulation of sap in the tree in the same manner that filthiness and diseases of skin retard the circulation of blood in the human system, and prove as fatal to the tree as the canker worm.

In order to remedy the difficulty, I have made some experiments within a few years, but principally to no good effect, not knowing then the particular season when these animalculæ could be most easily destroyed. This I have found to be any time between the 1st of June and the 10th of July. The application that I have found most effectual is washing the tree with ley. Lime, also, mixed with ley, to the consistency of white wash, may be useful. And although the small branches cannot be cleansed in this manner without much difficulty, still if the body of the tree and the branches near the body are kept clean, until there comes a rough bark, I think the lice will not kill the tree. Some people have recommended the application of trainoil to the tree, which indeed is a powerful antidote against lice; but being of a glutinous nature, is very detrimental to the tree. Grafting has been proposed, which I since found to have no effect at all on the lice, except when the stock can be conveniently cut down below the surface of the earth; this process will exterminate them without fail.

These lice are natural in the uncultivated forest, on what is called moose-wood and other bushes. Much care should be taken respecting lice, on their first appearing in an orchard or nursery, as the cutting down and destroying a few young trees is of no importance, compared with the difficulty of having an orchard overrun by them.

Littleton, June 20th, 1837.

Art. X.—*Calls at Gardens and Nurseries in the Vicinity of Boston.*

Charlestown Vineyard. We have frequently visited this place with much pleasure, while under the care of Mr Hagerston, and since it has been under the management of Mr Mason. Here the varieties of the sweet-water and other European grapes have had a fair experiment in the open ground, and if with the care that has been bestowed upon them by men so well skilled in their profession, and with an aspect so favorable as we think this must be, they cannot be cultivated to advantage, we are of opinion that it is useless to spend much time and money in the further attempt.

During ten or twelve years with the best management, these vines have produced but a small return for the expense incurrred. A few years, producing moderate crops, and then the remaining years utterly disappointed the hope of the cultivator.

Charlestown Vineyard contains about two and a half acres ; it is situated on the south western declivity of Breed's Hill, having a steep ascent from the green houses, which are located on the upper side. The vines are trained to trellices rising one above another. The place was laid out by Mr Hagerston some eleven or twelve years since. He had the superintendence of it a number of years, and every thing has been done by him and his successor to produce a plentiful crop. But with regard to the vines destitute of the shelter of the house, it may be considered as a failure.

In this place, as well as in every other garden we have visited this spring, it gave us pain to witness the destruction which our severe winter has caused among the peach trees. Mr Mason had already laid his axe to the root of the tree in a number of instances, and the few remaining looked as though they ought to be consigned to the wood pile or fire place. Should our seasons continue as cold as a few of the past, our horticulturists must abandon the cultivation of this delicious fruit also, and with the grape it must receive the protection of glass.

Mr Mason has an abundance of fine raspberry plants, which, according to present appearances, will produce a plentiful crop. We were shown a range of raspberry canes, with luxuriant foliage, which, Mr Mason informed us, were the produce of a plant raised

by himself from seed. It has proved to be a very superior variety, as those can testify, who have seen and tasted the fruit exhibited last season at the Horticultural rooms. The fruit is large, purplish red, and of an excellent flavor. A few plants are for sale, and we would recommend them to those who are about forming a raspberry plantation. It has been fruited three years; it is called the "New Grape Raspberry."

We were not aware that there was so much glass upon the place. There is one house 150 feet long, devoted entirely to grape, nectarines, and peaches; in this there is no flues for heating, and is appropriately called a cold house. The peaches and nectarines are trained to the back wall, and well set with fruit. The grapes appeared very well, but rather backward. In a climate so variable as ours, it is best in all cases, even in a cold house, to have heat at command. The expense of flues is not great in comparison with the loss of a crop of grapes, which may be materially injured, if not entirely spoiled, by a long spell of cold wet weather, when a little heat would have prevented it.

There are also two other houses, one 57 the other 52 feet long, devoted to grape and nectarines. A fourth house, 40 feet long, is for forcing early fruit and flowers. The fifth house, 75 feet by 18, is devoted to grapes and flowers—the flowers were now in their summer quarters, with the exception of a few pots of plants in flower. Among these the Fuschia globosa was the most attractive, being trained to fancy glass frame work, making a beautiful ornament for the drawing room. The collection of plants is very good, embracing many valuable specimens. The grapes in this house were the most forward of any on the place, but the crops will not be so heavy as in some previous years. The object of this garden is to supply bouquets, fruit, and plants, all of which have, heretofore, found a ready market. In consequence of the pressure of the times, as we suppose, the demand for flowers and plants has not been so great this season as usual; but when business has returned to its accustomed channels, we feel confident the call for these luxuries will be much greater than it ever has been before.

Farm School, Thompson's Island. This establishment may not, in one sense, be denominated a nursery, but in another and

higher sense it may; a nursery for training and preparing for usefulness immortal beings. It may be called a garden, however, either way. Our principal object is to notice the improvements and progress in horticulture; but in the present instance we must be permitted to deviate a little, and give some account of this benevolent institution, as it seems to be intimately connected with this art, for it is from the products of the garden and farm, principally, that sustenance must be obtained for this large family of boys.

Notice has been given of a visit to this place about two years since, by one of the former editors of the Register, in vol. I, p 294. It was then observed, that there were fiftysix boys in the institution at that time, and that they had been there only three weeks. That the institution was under the superintendence of Capt. Chandler, a man of intelligence and experience in agriculture. We refer our readers to that communication for a description of the Farm.

Capt. Chandler is still at the head of the establishment, and from the appearance of the boys, garden, and farm, we conclude that it has been managed in a very judicious manner. The number of boys has increased to one hundred and twelve, eight of which have been provided with good places; so there is at present one hundred and four in the institution; and a healthier, happier, more intel ligent looking lot of boys we never saw.

"The objects of the institution are, to rescue from the ills and temptations of poverty and neglect those who have been left without a parent's care; to reclaim from immoral exposure those who are treading the paths of danger; to place the solitary in families, to give to those who know nothing of the ties of influence from home, some taste and fondness for a local habitation at the least; and to offer to those whose only training would otherwise have been in the walks of vice, if not of crime, the greatest blessing which New England can bestow upon her most favored sons, a good education, are some of the purposes for which the Asylum and Farm School were endowed."

How the experiment has succeeded, must be learned in beholding the happy countenances of the children, the neatness, order, and harmony which pervades the place, the progress they have made in their studies, the appearance of the garden, and to know how much they do with their own hands for their own support. We

could not but envy the happiness of those who had the pleasure of laying the foundation, and contributing to the support of this institution. It may not yield so large a dividend in dollars and cents as many investments, but then what an unceasing, overflowing fountain of happiness it must be to those who have devised these liberal things, as they witness the success which attends this effort.

The employment of the boys seems to be properly divided between study, work, and play. The school is under the direction of Mr Hyde, a gentleman who appears to be at home among the boys, and they with him. We could not but admire the perfect order in his school, and the promptitude and readiness of the scholars in answering every question proposed. We think the managers peculiarly fortunate in securing the services of this gentleman. We have often done penance at a school examination; but it was not so here; it was a pleasure in a special manner to hear some of the boys read; we think they cannot be excelled by any in the city.

We were informed by Capt. Chandler that the boys have done most of the sowing and planting, and do most of the weeding, gathering seeds, harvesting, &c. The receipts from all sources for the year ending January, 1837, amounted to $3,500, and the expenditure to $6,000, leaving a deficiency of $2,600. To meet this excess it becomes necessary to appeal to the liberality of the public. To this call we hope the public will generously respond.

From this farm our seed establishment has been partially supplied with some kinds of garden seeds. Capt. Chandler raised for us the past season to the amount of more than $1,000, and from present appearances, probably, the same amount the present season. The English turnip seed will be ripe enough to harvest by the 10th of July, is very heavy, and will probably amount to 500 lb. Blood beet seed is another article which Capt. Chandler has raised to a large amount, and has succeeded in keeping it remarkably pure for many years The different sorts of seed which have any affinity are placed remote from each other, to prevent the possibility of mixture.

Considerable improvement has been made the present season by the way of setting out trees, an ornament of which the island is rather destitute. About 100 apple trees, and as many forest trees, have been put out this season. One of the most interesting spots is

the boys' flower garden, an oblong square piece, handsomely fenced off, containing perhaps about a quarter of an acre. Every boy has his own spot, which is laid and planted to suit his own fancy, and the whole forms an assemblage of squares, triangles, circles, segments of circles, and every possible shape that their boyish notions dictated. They have also a spacious play ground, where they seemed to enjoy themselves in the highest degree.

We were informed that about 500 loads of good manure are made annually by carting sea weed into the barn yard, and about 100 from the privy, by mixing its contents with loam. We were satisfied that to the article of manure, so necessary in agricultural operations, much attention is paid. We saw a field of about ten acres of spring wheat in a very promising condition, as were all the crops with the exception that they were rather backward.

We cannot leave this institution without commending it to the patronage of the public, as it seems at present to need a little fostering care; we think it can be made by and by to support itself.

J. B.

Art. X.—*Massachusetts Horticultural Society.*

EXHIBITION OF FLOWERS.

Saturday, June 9, 1837.

From J. P. Cushing, Esq., Belmont Place,—by Mr Haggerston—a superb specimen of Cactus speciosissimus, and a beautiful new species.

From John A. Kenrick—7 varieties of Pæonies, and 8 varieties of Azaleas.

Fruit.—A pot of Keene Seedling Strawberries, by Mr Hagerston; the fruit of extraordinary large size.

Saturday, June 17, 1837.

Mr Johnson, of Charlestown, exhibited a beautiful specimen of Austrian Rose Bush, containing numerous buds and expanded flowers. The outside of the petal is a fine orange yellow, while the opposite side is a brilliant scarlet. It is a single rose, and we think one of the finest we have yet seen in the whole tribe.

From the same gentleman,—Polemonium cerulea.

From S. Walker,—fine bouquets, containing, among other beautiful flowers, Dictamnus fraxinella, Lychness floscuculi plena, Spirea filipendula plena, Iris pallida, Hesperis matronalis plena, Polemonium, and some of his beautiful seedling Pansies.

For the Committee,

JOSEPH BRECK.

SATURDAY, JUNE 24, 1837.

By Mr William Kenrick, of Newton, a variety of cut flowers, among which we noticed Pœonies var. Iris, Purple Beech, Delphinium sinensis, &c.

John D. W. Williams, Esq. of Elm Wood, Roxbury, a very fine specimen of Erica ventricosa superba; it would give us great pleasure to see other specimens of this class of plants.

Col. M. P. Wilder, of Hawthorn Grove, Dorchester, Pansies in variety; Oncidium flexuosum—a parasite—has been in bloom more than four weeks, stalk twentyseven inches in length, with at one time, ninetyseven expanded blossoms.

Pæonia Albaflora Richardsoni Salpiglossis picta, variety Rose Mabach, (new French;) Alstromeria psittacina; Calceolaria, Grand Sultan. Many of the seedling Pansies exhibited by Col Wilder, were of great size and beauty.

Mr John Merrill, of Newton, specimens of Rosa Irene.

For the Committee,

S. WALKER, *Chairman.*

☞ The public are respectfully invited to visit the rooms of the Massachusetts Horticultural Society on Saturday of each week, during the season of flowers and fruit from 10 to 12 o'clock, A. M.

Note by the Conductors.—Mr Walker has omitted to mention the splendid seedling Pansies exhibited by himself. The one named the "Village Maid," surpasses, in our estimation, any flower of its class ever exhibited by our Society. Some other fine ones he has named Othello, Clio, Hecate, &c.

Art. XI.— *Miscellaneous Articles.*

Vegetable Markets at Algiers.—The vegetables in the markets have an enriching sight glowing with all the colors of the rainbow — splendid heaps of purple grapes in one pannier, and oranges, peaches, lemons, and pomegranates in another. Here we see spread out in piles the huge and golden-hued melons and pompions, and there the white garlic and the "scarlet and green pepper pods," together with the brown melogines, an excellent pot vegetable, in size, shape and color resembling a polished cocoa-nut. Altogether, the vegetable profusion here beats even that of Convent Garden; the only exception to its glory is, that their carrots, turnips, and potatoes are smaller and dearer, in proportion to general prices, than with us. I was particularly astonished at the cheapness of Barbary figs — ten for a sou — in Scotch, a bawbee. It is a fruit entirely distinct from the true fig, and, although sweet, is insipidly flavored; but still it is palatable and nutritious, especially if the stomach requires a slight astringent. I ceased to be surprised at its cheapness, when I found that it grows wild on the road side, and may be had for the trouble of gathering. It is not an universal production over Barbary, but, where it grows, the poorer Arabs live on it almost entirely during the weeks when it is in season. It is about the size of an ordinary lemon, and grows on the cactus bush.— *Campbell's Letters from the South.*

The Cactus Bush.—This plant does not assume the shape of a tree till its leaves, which are about ten inches long, and an inch thick, twist themselves together into a trunk. It affords the singular phenomenon of leaves springing out of a leaf. The leaves are thickly covered with prickles, which, when they get into animal flesh, are with difficulty coaxed out of it. It is much used for hedges in Algiers: but if you should ever come to the South, I exhort you never to let your linen be spread out on the Cactus. An affecting story is told of a Dutch family who had a country house near this city. In the house there were five plump, interesting daughters, who, in an evil hour, gave their garments to be washed, by an ignorant European laundress. She hung them out to dry on these prickly bushes, and such evils were entailed on the lovely

wearers of them, that they could not sit nor recline with comfort for a week or two afterwards.—*Ibid.*

Turnip Fly.— A correspondent in the Shrewsbury Chronicle states that the ravages of what is termed the "Turnip Fly" may be effectually prevented by the following application — One bushel of soot and two of quick lime incorporated, which are nearly sufficient for an acre, if the turnips are sown in the usual way, in drills. Let it be sown with the hand or the scoop out of a hopper when the seed leaf appears.

Strawberries.— Every body loves this most delicious of fruits. In milk, with cream and for preserves, it has but few equals, and no superior. Good strawberries gratify several of the senses at once, and combine, what in some cases are widely separated, health and pleasure. Strawberries too are easily cultivated, and with a little pains in procuring early and late varieties, they may be enjoyed in perfection for a long time. Yet little as is the cost, or trouble, required to enrich a garden with a plat of this fine fruit, few it seems, are willing to undertake it, and deprive themselves and their families of this wholesome and agreeable fruit rather than spend the requisite yearly half-day in digging and planting vines. Still men who will not procure a strawberry vine for their garden, will permit their children to ramble over their own and their neighbors meadows, trampling down the grass, acquiring predatory habits, and doing other injuries, besides spending far more time than would be required to produce an abundant supply of berries at home.

But perhaps some will say they have tried vines in the garden, and found that though they produced plenty of flowers they bore no fruit, and of course they gave up the bed as worthless. Very likely this may have been the case, for strawberries are of that class of plants which in the language of the older botanists produce male and female flowers or flowers which do not produce fruit as well as those that do. Every one has noticed in the common strawberry of the fields, patches of vines that flower abundantly but produce no fruit, and so it is with the garden strawberry. Observation, however shows that the non-bearing flowers are usually much the largest and fairest, while those that produce the fruit are comparatively small, and the flower leaves or petals curled; and this distinction

may be taken advantage of by any one, however ignorant he may be of the botanical nature of flowers. The best way, and the one that will effectually guard against disappointment in selecting bearing plants, is to mark the best bearing roots in such a manner that no mistake can occur when the proper season for transplanting arrives, which is either very late in the fall or as early in the spring as the state of the garden will admit.

When once the strawberry has been transplanted and placed in the plat where it is to remain, the only care required is to keep the ground clean, and free from weeds; and to cut off the runners that shoot out from the vines either by pinching them off with the thumb and finger, or clipping them with a pair of scissors. With these precautions, and the occasional digging over the ground between the rows of plants, and manuring with fine well rotted manure, a strawberry bed will last for years affording the best of fruit, and producing it in quantities surprising to one who has not tested its bearing qualities. Our advice then to the farmer is,—to plant a supply of strawberries in his garden — to send his children to school — and by all means, if he does not wish at mowing time to be vexed in spirit, or meet the maledictions of his neighbor, to keep his "little ones" out of all meadows whatever.— *Gen. Far.*

Destruction of Cocci.— The small insect known by the name of *Coccus arborum linearis* is well known as an enemy to the apple, pear, plumb, peach, apricot, and other out-door fruits, as well as to vegetation in green and hot houses. The effect of their ravages on the former appear to be, that by absorbing the sap, the growth of the trees is retarded, the fruit loses both size and flavor, and the crop decreases. In consequence of the female *Coccus* adhering close to the bark, it is extremely difficult to eradicate, and in this state can only be removed by scraping it off the branches, a mode extremely tedious, and endangering the life of the tree. Various remedies are in use, as tobacco water, soft soap and water, lime water, and bitter aloes, all of which are destructive to insect life, but which generally fail in this case. This is attributed by Mr Ingpen to the application of the remedies at improper seasons, or when the female has become fixed to the plants. The application of lime water two or three times, at intervals of one or two weeks, and a dusting of quick lime

before the branches get dry; or a washing of soft soap and water, using also the powdered lime, is recommended to be applied when the young larvæ make their appearance, which may be known because they are locomotive and easily detected by a pocket magnifier. For plants in the green and hot-house, a solution of bitter aloes is said not only to destroy the insect, but prevent its future appearance on the plant washed with it. — *Transactions of Entomological Soi ety.*

Pancratium Calathinum, Cup flowered Sea Daffodil. This is showy species of Pancratium is a native of the Brazils, and has been some time known in this country, although we meet with it but seldom in collections. It is highly deserving of cultivation, on account of its large handsome flowers and the delightful fragrance which succeeds their opening, and the amazing length of time each continues perfect.

Mr Campbell, of the Manchester Botanic Garden, furnished the sample for the drawing some time last summer. And we are informed that the length of time the flowers continued perfect was almost incredible.

Pancratium is a name given by the Greeks to a kind of Scilla; but the word signifying allforoe, is clearly illustrative of its powerful effects in medicine.— *Paxton's Mag. of Bot.*

Thunbergia.—"Having a small rooted plant, about the end of February we shifted it into a No. 48 size pot, in the following compost: onehalf of light turfy loam, onefourth of leaf mould, onefourth of fully decomposed wood or stick earth, to which we added a quantity of black heath soil, about one eighth of the whole, not sifted, but well rubbed through the hands. We stoved our plant in the front part of a pit in a vinery, the heat being generally from 65 to 70 degrees. We syringed it constantly with water heated to the temperature of 65 degrees, occasionally adding a small quantity of powdered sulphur, which kept it free from red spider. We sifted it as often as it was deemed requisite; and after it had grown for some time in a No. 16 pot, a trellis was made for it of the following description; six small green stakes were placed round the inside of the pot, four and a half feet long, with one in the centre five feet

long, for the purpose of carrying two cross-bars over the top of the trellis, to steady it, and running a circle of fine wire round the sticks, about eight or ten inches apart, till it reached the top of the trellis, which has formed a dome, by drawing the wire from one upright to the other. To each of the uprights we trained one of the shoots, (the plants having been constantly stopped,) and when they reached half way up the trellis, each shoot was again stopped, to cause the eyes to throw out lateral, which were trained round the trellis, forming one of each of the shoots as a leader, to reach the top of the trellis, when they were once more stopped, to furnish the upper half of the trellis, taking care to nip off all blossoms as they appeared. This was continued so long as it was desirable, to keep the plant in a vigorous growing state. When the weather became warm, the syringing not being sufficient to keep it moist, it was mostly watered once a day with liquid manure from sheep or cow's dung. It then received a final shift into a No. 8 pot, laying potsheds, broken small, about two inches thick in the bottom, over which was placed one inch thick of moss, being mixed with the soil, using the same compost as that mentioned at the previous shifting, with the addition of a little moss. The plant, treated as described above, was exhibited at the Horticultural Society's Rooms, Regent-street, London, where it was much admired. At the June show, a silver medal was awarded to it as a specimen plant. The size of the leaves are four inches long and three inches broad of the richest green. Such is the luxuriance of this plant, that we are obliged to nip off some of the leaves to allow the flower to be seen, and we have counted as many as two hundred flowers open at one time, some of which have measured nearly two inches in diameter." At the fete at Vauxhall Gardens, London, [the Metropolitan Society's] on the 11th of September, the Adelaide Medal was awarded for it. In the stove here, we have had several fine plants flowering since September last, in a temperature of 55 to 60 degrees.— John M'Evoy.— *Flor. Mag.*

Importance of Destroying Weeds.—The abundance in which weeds are seen in some fields, shows conclusively that but little of the mischief caused by them is understood. Weeds are injurious to the land and to the crop in almost every possible way that they can be. In the first place they exhaust the soil to support their own useless growth, and abstract that nourishment from it, which ought

to go exclusively to support the crop. Secondly, they crowd upon other plants above ground, prevent them from branching out at their roots, and deprive them of a free circulation of air necessary for their health and vigor, so that they shoot up only single, weak, sickly stalks, incapable of producing a valuable crop. Thirdly, they thow off from the soil through their leaves into the air, an almost incredible quantity of moisture, and speedily reduce the ground to so dry a state, as to be fit for weeds only to grow in. So enormous is the quantity thrown off by some plants that it actually exceeds more than twice their own weight in a single day. A bunch of grass, placed during a very dry season, under a large vessel, sent off moisture in two minutes, so as to cover the vessel with drops, which run down its sides. Dr Watson, who first performed this experiment, was led to conclude from its results that an acre of grass exhales more than thirty hogsheads a day. Plants are in fact but channels through which moisture is conveyed up from the soil to be dissipated in the air; hence the absurdity of the opinion that weeds will prevent the ground becoming dry by shading it. Let any one in dry weather examine a piece of perfectly bare soil, a few inches below the surface, and compare its degree of moisture with that of soil at an equal depth, near the roots of a thick growth of weeds, and he will find the difference astonishing.

Now, of what use is it to attempt raising crops if they are to be wasted by a growth of weeds? Of what use is it to buy land, and plough it, and prepare it, and put in the crops, if after all, these crops are suffered to be *eaten up* by such intruders? If a drove of cattle should break into a field, no one would think of resting a moment till they were driven out; and yet many allow myriads of noxious weeds to overspread their lands, often doing three fold more mischief, with scarcely an effort to check their progress. But this is not only permitted in cultivated fields, but in meadows and pastures, which are sometimes literally covered with Canada thistles, St John's wort, and many others, to the total exclusion of every thing else from the soil. — *Germantown Telegraph.*

Encouragement to Florists. — At a late sale at public auction of the furniture and effects of a gentleman in Philadelphia, one rose bush sold at $12,50, and another at $4. Such prices will remunerate florists for the care and labor necessary to their cultivation, and should prompt them to diligence and exertion in producing the choicest varieties. — *Silk Culturist.*

QUINCY MARKET.

[Reported for the Horticultural Register.]

ASPARAGUS,	bunch	6	8
APPLES, Russets,	barrel	3 50	4 00
BEETS, Old, (none)			
New,	bunch		6
Young for greens,	peck		12
BEANS, String,	"	1 00	
CRANBERRIES, (scarce)	bushel	6 00	
COCOANUTS,	hundred	4 00	
CABBAGE, none			
CUCUMBERS,	pair	12	25
CURRANTS, Green,	quart	12	
GOOSEBERRIES, Green,	"	12	25
HORSE RADISH,	pound	10	12
LETTUCE,	head	3	4
LEMONS,	box	3 50	
ONIONS, Old, (very few)			
New,	bunch		6
ORANGES, St Domingo,	hundred	3 00	
POTATOES, Old, (Nova Scotia)	bushel		1 00
common,	"		75
new	"		3 00
PEAS, Green,	"	2 00	
PICKLES,	gallon	37	
PINE APPLES,	hundred		12 00
NUTS, English Walnuts,	100 lbs.	5 00	7 00
Almonds, (hardshell)	"	4 50	
Castana,	"	4 50	
Filberts,	"	3 00	4 00
Shagbarks,	bushel	1 50	
RHUBARB,	pound	3	4
RADISHES,	bunch	3	4
SQUASHES, West India,	pound	3	
SPINACH, and other greens,	peck	12	
TURNIPS, New,	bunch	6	
STRAWBERRIES,	quart	37	50

Apples are nearly out of market and season. Russetts are about the only kind on hand. The season has been propitious for Lettuce, and there has been an abundant supply of very fine heads of Early Curled, Royal Cape, &c. Green Peas, grown in this vicinity made their appearance at the Stall of David Hill, No. 105, the 15th of June, and sold at the rate of $6,25 per bushel; they have now come in plentifully. Strawberries grown in the open ground made their appearance in the same stall the 16th and sold at 75 cents per quart. The cold, cloudy weather has prevented an abundant supply of this delicious fruit. The String Beans, and New Potatoes are from New York. Old vegetables have about disappeared. New Turnips are coming in very fine — New Beets in very small quantities.

Boston, June 24, 1837.